



Fermilab

TD-6030

CONTROL OF RADIOACTIVE MATERIALS

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1.0 Purpose and Scope

The purpose of this procedure is to provide instructions to Radiological Workers for the release of radioactive material from a radiological area to a controlled area and is intended to meet the requirements of the Fermilab Radiological Control Manual Article 421. Radiological Areas are defined in detail in the Fermilab Radiological Control Manual and include Radiation and Contamination Areas.

For purposes of this procedure, radioactive material is any material, equipment, or system component made radioactive or contaminated by exposure to particle beams, or rendered contaminated by contact with other contaminated material. This procedure does not apply to radioactive sealed and unsealed sources.

This procedure documents the controls that have been established to ensure loose surface contamination is not inadvertently transferred to uncontaminated areas by the movement of people or objects.

2.0 Personnel Qualifications

Personnel who have completed Radiological Worker training are qualified to release radioactive materials from radiological areas known to be free of loose surface contamination.

The Technical Division Radiation Safety Officer (RSO) is qualified to release radioactive material from all areas, regardless of the contamination status of the area. In the absence

of the Technical Division RSO, a qualified alternate will be designated to perform these responsibilities.

3.0 Responsibilities

3.1 All qualified personnel (including lab employees, users, contractors, and visiting scientists) are responsible for:

- a) proper labeling and storage of any radioactive material that comes into their possession as part of their assigned work responsibilities.
- b) proper labeling and storage of radioactive parts and components that result from the disassembly of items that are radioactive.
- c) calling the Technical Division RSO before commencing work in or removing material from areas known or suspected to be contaminated.

3.2 The Technical Division RSO is responsible for:

- a) performing contamination checks in areas known or suspected to be contaminated.
- b) documenting the status of areas checked for removable contamination.
- c) documenting the release of contaminated materials from radiological areas to controlled areas.
- d) determining the contamination status prior to any work being conducted in areas suspected of being contaminated.
- e) overseeing the decontamination of areas known to be contaminated.

4.0 Procedures for Logging the Release of Material from Contamination Areas

The Technical Division RSO, or his designee, will record the following in the Radiation Work Permits:

- a) Description of the item and serial number if available
- b) Date of the survey
- c) Survey instrument type, identification number, calibration date, and battery and source check result
- d) Survey results
- e) Record if the item was decontaminated

- f) Record if the item was released free of removable contamination
- g) Record if the item was labeled as being contaminated
- h) Record if the item was labeled as potentially containing contamination
- i) Name of the surveyor
- j) Record if the area was surveyed and declared free of contamination

5.0 General Storage Requirements for Radioactive Materials

“Class” tape is used to designate that the material to which it is affixed is radioactive.

Cabinets that are used for storing radioactive material are required to be labeled with "Caution Radioactive Material" signs.

Labeled radioactive items may be stored on shelves or other open areas designated as radioactive material storage areas.

When locked cabinets are used for radioactive material storage, it is recommended that radioactive and non-radioactive components be segregated.

Radioactive items are not to be stored in offices.

Uncontaminated radioactive items may be stored in Controlled Areas or Radioactive Material Areas if labeled with class tape. Contaminated radioactive items must be stored in Radiological Areas.

Radioactive items are not to be stored on or in workbenches. Radioactive items may be present on workbenches temporarily to perform work on them. Radioactive items that are not part of work in progress are to be stored in a designated radioactive material storage area.

6.0 Unlabeled Radioactive Material

In general, all components that are removed from known radioactive items are to be checked for radioactivity and labeled accordingly. Some radioactive components cannot be labeled because the adhesive from the tape would compromise the component surfaces. Other radioactive components are too small and numerous for labeling to be practical. In these cases the components need not be labeled with class tape. Unlabeled radioactive items are to be controlled under the provisions of this section.

Unlabeled radioactive materials may be stored together in containers that have been labeled with the appropriate class tape. Such containers are acceptable provided that they are either continuously attended, or stored in a designated radioactive material storage cabinet that is labeled “Caution Radioactive Material.”

Containers that are lockable and locked are equivalent to storage cabinets and should be labeled "Caution Radioactive Material."

Unlabeled disassembled radioactive components are not to be left unattended. Unlabeled components may be left unattended for short durations such as lunch periods and breaks provided that the area has been roped off and posted with signs that read "Caution - Unlabeled Radioactive Material."

The "Caution - Unlabeled Radioactive Material " designation of an area is intended for short durations only. This posting is not to be used for extended time periods. For overnight or other extended time periods, "Caution - Unlabeled Radioactive Material" posting of unlabeled radioactive material is not permitted unless otherwise approved by the Technical Division RSO.